CHAPTER EIGHT: MOLLUSCAN REMAINS FROM THE EIDEN SITE

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Introduction

The Bungart collection of molluscan remains from the Eiden Site is of particular interest because it represents the largest amount of bivalve material yet studied from a northern Ohio archeological site. It provides the only reliable information available on the original molluscan fauna of the Black River and its tributary French Creek, for early conchologists seem to have neglected the area, and at least the lower reaches of the Black River today are too polluted to support an extensive fauna. One anomalous feature of the Bungart collection is the remarkably low number of gastropods represented. This dearth of snail shells may be due to a failure to collect them, though the obvious assiduity with which Bungart saved even small fragments of naiad shell does not support such a contention. In any case there is no doubt that the bivalve sample is thoroughly representative of the Eiden site and fairly typical of the original fauna of the Black River and French Creek. Some aboriginal selectivity undoubtedly occurred, however, probably at the expense of the smaller species.

Considering the large amount of excavation conducted by Bungart, the 183 naiad individuals (minimum number) suggests that fresh water mollusca were not an important element in the Late Woodland diet. A similar inference can be drawn at other Late Woodland and Late Prehistoric "Whittlesey Focus" sites in northeastern Ohio, where freshwater bivalve shells are relatively uncommon. The contrast with most known Fort Ancient components of southern Ohio, where shellfish seem considerably more common, often forming veritable "shellheaps," is noteworthy, though the comparison must remain a subjective one, one not presently susceptible of verification by quantified data.

Terrestial Gastropods

Despite the relatively small number of pulmonate gastropods available from the Bungart collection, six of the seven native species represented have not previously been reported from Lorain County (La Rocque, 1970). This must be due largely to a lack of collecting, for none of the species represented are particularly uncommon in adjoining portions of the state. Anguispira kochi (Pfeiffer) dominates the pulmonate fauna, in contrast to most other northern Ohio aboriginal sites studied, where the related Anguispira alternata is more abundant. With the exception of Triodopsis multilineata, all of the Eiden species would be at home in an upland woods; that species is more usually found in marshes or on river floodplains.

None of the land snails from the Eiden site show any trace of utilization by the aborigines, and most if not all of the shells probably post-date the Indian occupation of the site.

One exception to this stricture is a highly unusual terrestial gastropod represented by a single fragmentary specimen from the undifferentiated surface midden at the Eiden site. This shell has been identified by

Dr. R. Tucker Abbott, Delaware Museum of Natural History, as Cerion incanum (Binney), a pulmonate snail with a geographic range restricted to the Florida Keys, the Bahamas, and various islands in the West Indies (Pilsbry, 1946). The singular occurrence of this snail at the Eiden Site is treated in detail elsewhere (Murphy, 1972a, b). Careful examination of the soil adhering to the inner portion of the body whorl, as well as a distinctive reddish-orange oxidation deposit on the shell, removes any doubt that the exotic gastropod might have been accidentally mixed with the Bungart material subsequent to excavation of the Eiden Site. Nor does it seem likely that the shell was collected by some recent, unknown Florida tourist who later discarded or lost it at the Eiden Site. The most probable explanation is that the shell was a Late Woodland trade item from the Florida Keys. Such an interpretation is supported by the presence -- highly unusual -- of other southern shells, notably worked marine conch shell beads and pendants, in the Late Woodland Eiden component. Apparently the inhabitants of the Eiden Site were never told that the celebrated "Hopewellian Interaction Sphere" was a thing of the past!

Aquatic Gastropods

Five species of aquatic snails occurred at the Eiden Site, half of the total number of specimens having been found in association with human burials. It is doubtful that these were deliberately placed with the burials, though they may have been clinging to reeds or sedges used in grave preparation. This is particularly likely in the case of Helisoma and Stagnicola, both of which prefer ecologic niches containing abundant aquatic vegetation. The shells may also have been merely accidental inclusions in the burial fill, however. Certainly none of these snails, with the possible exception of Campeloma, were large enough to have been of any value as food; the very paucity of aquatic snails at the site also makes it highly unlikely that any of these were used for food. The dearth of high-spired Pleurocera and Goniobasis shells at the Eiden site is peculiar, for these -- especially the former -- were quite common at the Reeve and Fairport Harbor sites, where many of them were perforated, presumably for use as beads.

Bivalvia

The bulk of the Eiden collection consists of freshwater naiad shells. These are listed in Table 8-1, along with the freshwater and terrestial gastropods, the number of both left and right valves being given for the bivalves. Provenience data for individual features and burials are on file at the Department of Anthropology, Cleveland State University. There is no indication that any of the shells were deliberately placed with burials. Possible exceptions are three worked Amblema "hoes" and two worked clam shell (Ligumia) spoons which occurred in burial association.

The naiad fauna represented at Eiden is quite similar to those reported previously (Murphy, 1971) from aboriginal sites in northeastern Ohio and is typical of moderate-sized rivers and tributaries of Lake Erie (Dean, 1890; Clark and Wilson, 1912). The four most common species at Eiden, in order of decreasing abundance, are Amblema costata, Lampsilis ovata ventricosa, Elliptio dilatatus, and Quadrula pustulosa prasina. It happens that Amblema costata and Elliptio dilatatus are two of the most

TABLE 8-1: MOLLUSCAN FAUNA AT THE EIDEN SITE

	General Midden	Burials	Other Features
Naids			
Fusconaia flava (Rafinesque)		0-1	
Amblema costata Rafinesque	9-5	9-7	46-37
Quadrula pustulosa prasina (Conrad)	4-2	5-1	13-11
Quadrula quadrula Rafinesque	1-0		3-2
Elliptio dilatatus (Rafinesque)	6-8	3-2	17-13
Lasmigona complanata (Barnes)			4-2
L. compressa (Lea)			0-1
L. costata (Rafinesque)		1-0	5-2
Lampsilis ovata (Say)	0-1	3-0	1-0
L. ovata ventricosa (Barnes)	2-5	1-2	28-27
L. radiata siliquoidea (Barnes)	3-2	1-0	3-7
Ptychobranchus fasciolare Rafinesque	1-1	0-1	6-8
Actinonaias carinata (Barnes)	1-0		1-1
Ligumia recta latiissima Rafinesque	1-2	2-3	11-12
Villosa iris (Lea)		1-1	0-1
Aquatic Gastropods			
Campeloma decisum (Say)	1	3	2
Pleurocera acutum Rafinesque			2
Goniobasis livescens (Menke)	1		
Stagnicola umbrosa (Say)		3	
Helisoma trivolvis (Say)		2	
Pulmonate Gastropods			
Mesodon clausus (Say)			2
Triodopsis albolabris (Say)			4
T. multilineata (Say)	1		1
Allogona profunda (Say)		2	
Mesomphix cupreus (Rafinesque)		1	5
Anguispira alternata (Say)		4	1
A. kochi (Pfeiffer)	6	4	44
Cerion incanum (Binney)	1		

abundant species at all three of the major "Whittlesey Focus" sites -- South Park, Reeve, and Fairport Harbor -- that have yielded substantial molluscan samples. The few species not reported previously from "Whittlesey Focus" sites are represented at Eiden by only a few individuals, and all are known from streams in the Maumee drainage basin. The dearth of Actinonaias carinata at Eiden contrasts sharply with that species' common occurrence at the South Park and Reeve sites and its abundance (Clark and Wilson, 1912) in the Maumee drainage. Presumably the Black River here was too turbid and slowmoving for that species to thrive. The comparative abundance of Quadrula pustulosa prasina, together with the occurrence of Lasmigona complanata and other species that prefer quiet water with mud bottoms, contrasts with the common occurrence of Ligumia, Lampsilis ventricosa, and particularly, Ptychobranchus fasciolare, which prefer moving water. This indicates that naiad collecting was not limited to a single station. A mixture of small creek forms with those that prefer quiet, deeper water and those preferring a moderate current suggests that both the waters of French Creek and the shallows and backwaters of the Black River were utilized for shellfish collecting.

Worked Shell

(Table 8-2) Two forms of worked or modified bivalve shells were encountered in analysis of the molluscan sample. These may be distinguished from the various shell artifacts discussed elsewhere in this site report by virtue of their utilitarian as opposed to ornamental function. Amblema costata is generally the stoutest of the shells represented and numerous specimens of it have had a single hole cut in the umbo, presumably for attachment of a handle. Actual function of such shell, "hoes" is problematic. The absence of wear along both the ventral and posterior margins would seem to preclude use as digging tools. Quite possibly they were used as ladles, although the occurrence of similarly perforated Ligumia and Ptychobranchus shells, which have a decidedly lanceolate shape, would seem less suitable for such a function. Unmodified Ligumia and, less commonly, Lampsilis valves appear to have been used as spoons, eight of these displaying distinct traces of wear or preparation along the ventral margin. The ventral edge of these shells especially seems to have been deliberately ground to prevent chipping and breaking along the thin margin. When scratches due to actual wear can be distinguished from such preparation, the direction of movement and whether the shell was held in the left or right hand can be inferred. Although it might be thought that the relative number of utilized left and right valves would serve as an index of the ratio of left-handed to right-handed individuals at the site, close study of the available shell spoons suggests that the problem is more complicated. Assuming that the shells were most effectively held by the dorsal margin (hinge line), traces of wear should trend outward and away from the user. For example, wear scratches on the outer surface of the Lampsilis spoon (a left valve) trend obliquely from the ventral margin toward the anterior edge. This indicates that the shell was held in the left hand and moved toward the user. Should a right valve have been held in the left hand, wear scratches would trend posteriorly from the ventral margin. Because of their elongate form, the Ligumia shells are more difficult to interpret -- traces of wear are confined to the ventral margin, usually parallel it, and are difficult to distinguish from scratches produced by initial preparation of the ventral margin. At the Eiden site it seems that the anterior margin of Ligumia shells was used as the leading edge, so that right valves in all

probability would have been held in the right hand. This was not a consistent pattern, however, for some right valves show evidence that the posterior margin was the cutting edge, with wear scratches running obliquely toward the anterodorsal margin, indicating that the valve was held in the right hand. In other words, left-handed people did not simply select left valves. In fact, use of such spoons requires so little dexterity that they might be used in either hand. The few specimens examined, however, suggest that generally they were not, some preference usually having been shown.

Conclusions

The molluscan sample from the Eiden site is typical of the original fauna of the moderate-sized rivers and tributaries flowing into Lake Erie. Some selectivity upon the part of the original inhabitants of the site has undoubtedly eliminated the smaller and more retiring naiads; many of the smaller gastropods were undoubtedly overlooked during excavation of the site. Species composition of the sample suggests that, while freshwater mollusca did not form a major part of the late Woodland diet, more than one collecting station was "farmed" along the Black River and French Creek. The most remarkable occurrence is the unique Cerion gastropod shell, which probably is a trade item from the Florida Keys. The absence of perforated freshwater gastropod shell "beads" may be noteworthy. It is suggested that closer attention be given the ubiquitous "clam shell spoon," for relatively minor site-to-site variations in the precise mode of utilization of this type of implement may previously have gone unnoted.

TABLE 8-2: WORKED SHELL

	General Midden	Burials	Other Features
"Hoes"			
Amblema costata	2-1	2-1	5-5
Ligumia recta			0-1
Ptychobranchus fasciolare			0-1
Lampsilis ovata ventricosa			1-0
Spoons			
Ligumia recta	0-1	2-0	4-0
Lampsilis ovata ventricosa			1-0